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DEPARTMENT OF THE ARMY OFFICE OF THE ADJUTANT GENERAL WASHINGTON, D.C. 20310

25 January 1971

AGDA -A (M) (20 Jan 71) FOR OT UT 703119

SUBJECT: Operational Report - Lessons Learned, Headquarters, 27th Engineer Battalion, Period Ending 31 July 1970

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 4b, AR 525-15. Information of actions initiated as a result of subject report should be forwarded to ACSFOR OT UT within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

1 Incl

KENNETH G. WICKHAM Major General, USA The Adjutant General

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DEPARTMENT OF THE ARMY HEADQUARTERS 27TH ENGINEER BATTALION (COMBAT) APO 96308

FOR BUILD

31 July 1970

SUblisit: Operational Report - Lessons Learned, 27th Engineer Battalion (Combat), Period Ending 31 July 1970, RCS CSFOR-65 (R2)

TO:

Assistant Chief of Staff for Force Development Department of the Army Machington, D. C. 20310

SECTION 1 Operations: Significant Organizational or Unit Activities

1. Command:

- a. During the reporting period the 27th Engineer Battalion (Combat) and the attached 591st Engineer Company (Light Equipment) were located at Camp Eagle (Gia Le YD833152) RVN. Additionally, the Quarry Section of the 630th Engineer Company (Light Equipment) was attached to D Company located at FSB Birmingham (YD706102). The 59th Engineer Company (Land Clearing) was operationally controlled to the 27th Engineer Battalion for a period starting 26 June 1970 for land clearing in the Phu Tu area (YD8825 to YD9914). Various elements of the Battalion were located at jobsites as noted below.
- with the primary mission of providing combat and operational engineer support to the 101st Airborne Division (Airmobile) and general support to the elements of XXIV Corps on the area south of the Song Bo River, north from the Thua Thien/Quan Nam Province border and east from the A Shau Valley to the Gulf of Tonkin. During the period 1 May 1970 to 31 July 1970 support consisted of numerous projects to improve the defensive posture of various Pire Support Bases, Combat Bases and Camps throughout the AO. Of particular note is the fact that over 140 bunkers of various dimensions; 54,970 meters of tactical wire, 3110 LF of Exrugated sheet metal and prefabricated ARMCO revetments; over 100 concrete culvert headwalls; 140 LF Timber Treatle, pile bent bridge, and 120 LF Arch Culvert were constructed. Additionally, the Battelion continued work on the XXIV Corps tactical road program, installing over 2700 LF of culvert, placing over 55,000 CY of lecarite and 17,000 CY of rock, 5,500 gal peneprime, 39,500 gal MC250 and 11,000 gal of RC800 on the road natworks in upgrading for the monsoon season.
 - c. Commanders:
 - (1) Battalion Commander

 LTC Harlan W. Johnson



(2) Company Commanders:

FOR OT UT 703119 Inclosure

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Page 1

(a) A Company Robert N. Stromberg, CPT CE, (1 May - 4 July 1970)

Rudolph V. Acs, 1LT CE, (5 July - 31 July 1970)

(b) B Company John J. Asta, CPT CE,

(1 May - 3 May, 14 May - 30 May 1970)

Gerald W. Mabry, 1LT CE,

(4 May - 13 May, 12 June - 21 June 1970)

Edward M. Harris Jr., CPT CE,

(30 May - 11 June, 22 June - 31 July 1970)

(c) C Company John A. Jean, CPT CE, 0003-36-8578

(d) D Company Allan G. Boyle, Jr, CPT CE, (1 May - 30 May 1970)

Bouglas W. Sherratt, lLT CE, (30 May - 31 July 1970)

(e) HHC John A Carr Jr., CPT CE,
(1 May - 9 June 1970)
Wayne J. Herrschaft, CPT CE,
(10 June - 31 July 1970)

(f) 591 Engr Co John A. Dodson, CPT CE,

- d. Organizational Structure: See Inclosure 1
- 2. Personnel, Administration, Morale and Discipline

a. As of the end of the reporting period, the Battalion strength including attachments was as follows:

	OFF	WO	NCO	em	TOTAL
Authorized	41	4	109	844	993
Assigned	34	3	72	695	804

- b. Personnel Statistics
 - (1) KIA: EM 1; OFF 0
 - (2) WIA: EH 9; OFF 3
 - (3) Medevac out of country: EM 16; OFF 1
 - (4) 60 day loss (as of 31 July 1970)
 - (a) ETS: EM 42; OFF 10
 - (b) DEROS: EM 114; OFF 5

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Inclosure

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- (5) Extensions: EM 49; OFF O
- c. Discipline
 - (1) Field Grade Article 15's: 25
 - (2) Company Grade Article 15's:
 - (3) Summary Courts Martial: 0
 - (4) Special Courts Martial: 4
 - (5) General Courts Martial: 0
- d. Awards
 - (1) Bronze Star for achievement/service: 25
 - (2) Army Commendation Medal for achievement/service: 86
 - (3) Purple Heart: 0
 - (4) Vietnamese Awards (pending and approved)
 - (a) Cross of Gallantry (Silver): 5
 - (b) Technical Service Medal: 1
- e. Reenlistments 1st term: 21
- 3. Intelligence and Counterintelligence
- a. Battalion intelligence activities remain at a low level. Daily intelligence summaries are received from the 101st Airborne Division (Airmobile), G-2.
 - b. Counterintelligence activities
 - (1) Confidential clearances granted: >1
 - (2) Secret clearances granted: 11

 - (3) Secret clearances validated: 34(4) Top Secret clearances validated: 1
 - (5) Revocations, suspensions, etc.: 0
- c. A total of 16 mines were found along Rt 547 and in the Phu Tu area during the reporting period.
- 4. Operations
- a. HHC Continued to provide engineer equipment and logistical support to assigned and attached units as required.
- (1) Operated and maintained water points at Gia Le (YD833152) producing 2,540,000 gallons, at FSB Birmingham (YD703102) producing 905,000 gallons, and at FSB Veghel (YD559035) producing 14,000 gallons.
- (2) Operated barge offload and truck loading sites at Bridge Ramp #5 (YD756251) offloading a total of 24,704 tons of 2½"(-), 2161 tons of 3/4" (-) and 3539 tons of 3/8"(-).
 - b. A Co

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- (1) Constructed 500 LF of corrugated sheet metal revetments at 138th Avn Co, Phu Bai.
- (2) Removed 60 ea prefabricated ARMCO type revetments and reconstructed 32 CH-47 revetments and 28 Huey and LOH revetments.
- (3) Constructed and revetted 18'x 0' bunker with cupo of for 1/83 Artillery, Camp Eagle.
 - (4) Constructed a 20'x 52' TOC bunker for 4/77 Artillery, Phu Bai.
- (5) Constructed and revetted two 20'x 32' TOC bunkers for Phu Loc District Headquarters (ZD097008).
- (6) Constructed 10 meter tanglefoot around 1000 meter perimeter at Phu Loc Quarry (ZD042021).
- (7) Cleared 6000 square meters fields of fire and installed a 30 light perimeter lighting system at Phu Lcc Quarry.
 - (8) Hauled 7700 cubic yards fill for MCB-10 near LZ Sally (YD703252).
- (9) Hauled 1494 cubic yards at Phu Tu Road (YD899185) for 326th Engr Bn.

c. B Co

- (1) Constructed 10' x 24' command bunker at Tan My Docks (YD818328).
- (2) Constructed 600 LF, 8" thick concrete walls, 500 LF bracing for fuel blivets, 410 LF culvert and 11 concrete headwalls for 528th Quartermaster Battalion. Phu Bai.
 - (3) Constructed 16' x 32' TOC Bunker for Phu Bai Base Defense.
- (4) Installed concrete box culvert and 74 LF culvert in Phu Bai ASP (Cobra).
- (5) Installed minefield (88 M-14 AP mines) and protective fences for 8th RRFS, Phu Bai.
- (6) Constructed four 8" gun pads with berms and 82 bunkers varying from 12'x32" to 8'x12' at FSB Veghe1 (YD550035).
- (7) Constructed a 180' Double-Single Bailey Bridge over Khe A To River (YD554038) near FSB Veghel.
 - (8) Constructed 220 LF revetments for 138th Avn Co, Phu Bai.
 - (9) Constructed 410 LF revetments for 220 Avn Co, Phu Bai.
- (10) Repaired 2000 meters of erosion damage by concrete culvert construction on Phu Tu road.

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d. C Co:

- (1) Constructed 10'x20' IOS Dunker at FSD Arsenal (YDSC7073).
- (2) Installed 320 LF culvert with 10 headwalls along the Song Do road from YD669270 to YD642226.
- (3) Installed 1150 LF culvert and 50 concrete headwalls in the drainage system for Phu Dai road notwork.
- (4) Constructed 146 LF of 180 timber trestle, pile bent bridge over Kho Lau River at YD806093.
- (5) Installed 420 LF culvert along read from GL-1 (YD667270) to PSD T-Bone (YD658203).
- (6) Raised timber trestle bridge at YD792159 three feet and repaired superstructure.

e. D Co

- (1) Installed 510 LF of culvert and 30 timber headwalls along Rt 547 from Pohl Bridge (YD753141) to FSD Voghel.
- (2) Installed 100 LF RRG fence and prepared 40 new defensive positions at FSE Dirmingham.
- (3) Dozors cut and filled over 28,000 cubic yards of laterite to upgrade access road to FSD Veghel. Cleared 100,000 square yards for fields of fire. The company constructed 47 bunkers and 32 two-man fighting positions at FSB Veghel.
- (4) Installed 230 LF culvert and hauled over 850 CY blast rock and 4400 CY laterite along with placing 4100 gal of RC800 on access read to FSB Birmingham.
- (5) Dozers cut 2300 CY fill and installed 42 LF culvort on access road to FSB Arsonal.
- (6) Haulod 1400 CY rock, 2300 CY fill, dozer cut 3700 CY fill, and fustalled 200 LF culvert at FSD Bastogne (YD620095).
- (7) Installed 130 LF erch culvert in Kho 4 To River (YD554038) neer FSD Veghel.
 - (8) Constructed 10 bunkers at PSB Birmingham.
- (9) Conducted daily minesweep on Rt 547 from Eagle Gate (YD503148) to FSD Veghel.

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f. 591st Engr Co (LE)

- (1) Constructed 3520 linear meter single lane fair whather read from the T-Bone read (YD633039) to the village of Ap Lai Bong (YD605255) on the Song Bo River. Houled 72,000 cubic meters in the project.
- (2) Constructed 985 LF of 12: feet high compacted bern, hauling 15,178 CY fill for 101st Airborne ASP in Phu Bai.
- (3) Raised, graded and compacted an 8 km stretch along Eagle Dy-Fass (YD803148 to YD757143) placing 20,804 CY fill.
- (4) Upgraded 9600 IF of North Perimeter road from QL-1 (YD820181) to Camp Engle (YD813166) into a two lane all weather road, 2550 cm of fill, 2049 cm of rock and 5950 gallons of MC250 were placed on the road.
- (5) Constructed a 3000 LF road in the 528 QN FOL Bag Farm, Thu Bai. Over 2000 on fill and 1200 on rock were placed on the road,
- (6) Continual support from all the company's resources supported various projects throughout the Battalian ...O.
- (7) The support platoon maintained and operated a 75 TH crusher and secondary unit at the Phu Loc Quarry (ZDC43022). The data for the quarter follows:

2½(-) rock produced 14,000 CY 2½(-) rock issued 7,600 CY 1½(-) rock produced 1,350 CY 1½(-) rock issued 1,100 CY

- (8) Upgraded and prepared for paving 3.75 miles of two-lane read and 17,000 square yards of hardstand within the Phu Dai Read System. Project is continuing toward final tasking of 10.5 miles of read and 46,500 square yards of hardstand. MCD 10 is paving the reads although all haul effort is supplied by the 27th Engr Dn. 10,450 on of fill, 12,900 on of rock and 32,740 gallons of MC250 have been placed on the read network to this date.
 - g. Quarry Section, 630th Engr Co (LE)

Maintained and operated 75 TH primary rock crusher at River Run site (YD696096) near FSB Diraingham. Data for the quarter follows:

2½(-) rock produced 5,979 CY 2½(-) rock issued 6,150 CY Fines produced 6,298 CY Fines issued 751 CY

h. Third Platoon, 59 Engr Co (LC) Since unit only ep-conned to 27th Engr Dn (C) ORLL propored by 45th Engr Gp.

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SECTION II: Lessons Learned

- A. Porsonnel: None
- B. Operations
 - 1. Bunker/Revetment Construction
- a. OBSERVATION: In the interest of eliminating sandbags for protection of bunkers, various designs for reveting bunker roofs and walls have been tried. The objective of eliminating sandbags was satisfied by constructing a two-foot high retaining wall on the roof, and then constructing revetments around the bunker. However, two separate construction steps were required to complete the reveting and the design left an unprotected gap at the corners of the roof (see Incl 2, fig 1). A new design was conceived whereby the wall revetments were extended to a height extending two feet above the roof, thus providing the retaining wall for the fill over the roof and eliminating the protection gap in the corners of the roof.
- b. EVALUATION: The added height provides a retainer wall for fill over the roof, provides complete revetment protection, and is an acceptable substitute for sandbags in revoting bunkers. Only one construction step is required.
- c. RECOMMENDATION: All bunkers should be constructed with wall revetments to a height of two feet above the roof.
 - 2 Gunped/Bunker Construction
- a. OBSERVATION: On firebase construction a problem was encountered concerning the construction of bunkers and gunpads in a confined space. The bunkers were constructed within 6 to 8 feet of the edge of the gunpads as per the construction plans. A berm was placed between the pad and the bunker, and vertical posts were emplaced to absorb the shock of the weapon recoil. When the Artillery was required to perform certain fire missions, the gun spade was placed against the posts and the berm. The impact due to recoil of the guns caused the berm to shift within a short period of time. After several missions the impact was transmitted directly through the berm onto the walls of the bunker. The walls soon began to shift and collapse. Frequent repairs were required to preclude complete failure of the bunker.
- b. EVALUATION: The 6 to 8 foot spacing between gunpads and bunkers is not acceptable.
- c. RECOMMENDATION: In the future, planning and layout for construction of firebases should provide for a minimum of 15 feet separation of bunkers and gunpads. This will allow the berm to absorb and transfer the force of the gun spade to the ground before reacting on the bunker wall.

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3. Breakwater Expedients

- a. OBSERVATION: Heavy monsoon rains are generally accompanied by by swift currents and whirlpool effects which cause serious erosion demage at culvert headwalls.
- b. EVALUATION: Large, steep watershed areas in First Military Region continue to remain a problem in maintenance and construction of culverts.
- c. RECOMMENDATION: Culvert Construction procedures should provide for the use of large blast rock, check walls or similar item 5 to 15 meters upstream of culvert headwalls. The barrier across the stream sill act as a breakwater to dissipate the energy and velocity of the stream current. Whirlpool effects and erosion damage will be minimal.

4. Mining Incidents

- a. OBSERVITION: The enemy has lately concentrated on placing mines on shoulders and narrow portions of the road. The mines are still being employed in sets of three but an increase in shoulder, ditch mining has occurred.
- b. EVALUATION: The shoulder/ditch practice has lessened the chances of a visual sighting by minesweep teams. It also has increased the hazard to vehicles parking or working along the ditch line.
- c. RECOMMENDATION: Increase instruction and emphasis on current mining practices, especially to minesweep teams. Additionally, it should be required for the teams to make a deliberate minesweep in all narrow sections of the read and also in shallow ditches into which a vehicle is likely to drive.

5. Base Course Preparation

- a. OBSERVATION: In base course preparation, a sand, rock mixture was processed through a 75 TH crusher. This nixture tended to segregate due to haul and final grading, resulting in large amounts of loose rock on the surface. This segregation was due to a lack of bond between the sand and rock. A one-to-one mixture of rock and laterite was processed through the crusher and a bondable mixture was obtained.
- b. EVALUATION: Laterite is a more effective material for choker in this crea.
- c. RECOMMENDATION: When using crushed rock for a base course, the mixing of rock and laterite at the crusher, when feasible, should be utilized for a more efficient road construction.

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- C. Training: None
- Intelligence: None
- E. Logistics: Replacement Equipment
- 1. OBSERVATION: Frequent problems have occurred in acquisition of replacement equipment through supply channels. The equipment cleared for acquisition has been incomplete or in immodiate need of third echelon repair at the time of issue. Two entrenching machines have had faulty electrical systems. Two truck-mounted 20-ton cranes obtained by 591st Engr Co have been received and both have remained inoperable due to issue of incomplete cranes. Only one boom was in serviceable condition, and the attachment sets of the cranes were lost in shipment to the supply depot. Replacement 5-ton dump trucks have experienced a notable problem with tersion bers which are not properly attached. Two Westinghouse graders have also been deadlined for an extended period. The circle reverse was inoperable on one, and the other was issued with faulty parts installed.
- 2. EVALUATION: The problem seems to stem from the fact that the maintenance and support commands are not thoroughly checking for total repair of equipment and issue of complete sets prior to issuing the equipment to the receiving unit. The critical nature of 5-ton dump trucks, graders and cranes to the operations of an engineer unit makes inradiate correction of this problem area imperative.
- 3. RECOMMENDATION: An effort should be made throughout all levels of support, specifically Second Logistics Command in Okinawa, to correct the above problem. Continuance will greatly hamper engineer operations.
- F. Organization: None

G. Other: None

HARIAN W. JOHNSON

As stated

2 Incl

Incl 1 w/d HQ DA DISTRIBUTION:

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8 - CG, 18th Engr Bde, ATTN: AVBC-C, APO 96377 (Courier)

9 - CO, 45th Engr Gp (Const) ATTN: EGD-3, APO 96308 (Courier)

15 - S-3, 27th Engr Bn (C)

2 - Each Company, 27th Engr Bn (U)

2 - 591st Engr Co (LE)

2 - 630th Engr Co (LE)

EGD-3 (31 Jul 70) 1st Ind SU-JECT: Operational Report - Lessons Learned, 27th Engineer Battalion (Combat) for the Period Ending 31 July 1970, RCSFOR-65(RI)

DA, headquarters, 45th Engineer Group (Const), APC 96308, 22 Aug 1970

- TO: Assistant Chief of Staff for Force Development, Department of the Army (ACSFOR-DA), Washington, D.C. 20310
- 1. The Operational Report Lessons Learned for the 27th Engineer Battalion (Combat) has been reviewed by this Readquarters and is considered to be an accurate account of the Battalion's activities during the period.
- 2. This headquarters concurs with the observations and recommendations of the Battalion Commander.

WILLIAM R. WRAY Colonel, GE Commanding AVEC-CG (31 Jul 70) 2nd Ind SUBJECT: Operational Report - Lessons Learned, 27th Engineer Battalion (Combat), Period Ending 31 July 1970, RCS CSFCR-65 (R2)

- DA, HEADQUARTERS, 18TH ENGINEER ERIGADE, APO 96377 12 SEPTEMBER 1970
- TO: Commanding General, U.S. Army Vietnam, ATTN: AVHCC-DST, APO 96375
- 1. This headquarters has reviewed the Operational Report Lessons Learned for the 27th Engineer Battalion (Combat), as indersed by the 45th Engineer Group (Const). The report is considered to be an accurate account of the Battalion's activities during the reporting period.
- 2. This headquarters concurs with the observations and recommendations of the Battalion and Group Commanders.

Brigadier General, USA

Commanding

AVCC-10 (31 July 70) 3rd Ind SUBJECT: Operational Reports - Lessons Learned for 27th Engineer Battalion (Combat), for the Period Ending 31 July 1970, RCS CSFOR-65 (R2)

DA, HQ, US Army Engineer Command Vietnam (Prov), APO 96491

TO: Commanding General, United States Army Vietnam, ATTN: AVHGC-DST, APO 96375

Subject report is under review in this Headquarters. Comments for inclusion in the Headquarters, USARV indorsement to CINCUSARPAC will be forwarded to your Headquarters by separate cover.

FOR THE COLDMANDER:

ROBERT E. SHEA

CPT, AGC

Assistant Adjutant

AVHDO-DO (31 Jul 70) 4th Ind SUBJECT: Operational Report - Lessons Learned, 27th Engineer Battalion (Combat), Period Ending 31 July 1970, RCS CSFOR-65 (R2)

Headquarters, United States Army Vietnam, APO San Francisco 96375 27 OCT 1970

TO: Commander in Chief, United States Army Pacific, ATTN: GPOP-DT, APO 96558

- 1. This Headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 July 1970 from Headquarters, 27th Engineer Battalion and comments of indorsing headquarters.
- 2. Reference item concerning "logistics: Replacement Equipment," page 10, paragraph 2e. Occasionally items of equipment that have components missing or have operational deficiencies that require maintenance/repairs are issued/received by engineer units. Units have been instructed to inspect equipment at time of issue and report any deficiencies. Normally these are reported to the Logistic Assistance Office, Vietnam (ANC Activity) for follow up action. It is known that attachments, other than booms, are required to be requisitioned separately and are not issued as a component with the crane. This information has been disseminated to all units. Action has been taken to ship booms to Vietnam. Recommend that USARPAC and DA follow up to insure shipment of authorized attachments/components with end items and that improvements be provided in quality assurance at overhaul activities so that replacement equipment is received in serviceable condition.

FOR THE COMMANDER:

CLPT, AGC

Assistant Adjutant General

Cy furn: USAECV(P) 27th Engr Bn

GPOP-DT (31 Jul 70) 5th Ind SUBJECT: Operational Report of HQ, 27th Engineer Battalion for Period Ending 31 July 1970, RCS CSFOR-65 (R2) (U)

HQ, US Army, Pacific, APO San Francisco 96558 1 9 NOV 70

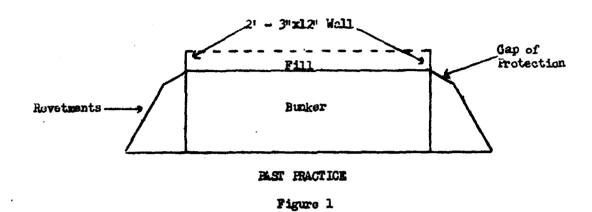
TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

L.M. OZARS CPT, AGC

Asst AG



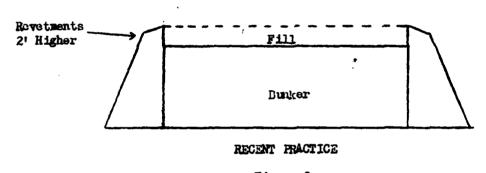


Figure 2

Inclosure 2

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ing pa, cacaron, washington, p.c. 20310	26. GROUP					
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Operational Report - Lessons Learned, HQ, 27th Engineer Battalion						
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)						
Experiences of unit engaged in counterinsurgency operations 1 May to 31 July 1970. 5. AUTHORISI (First name), middle Initial, leaf name)						
,						
CO, 27th Engineer Battalion						
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